



#11

SEQUENCE LISTING

<110> DIVERSA CORPORATION  
SHORT, Jay M.  
MATHUR, Eric J.  
LAM, David E.

<120> ENZYMES HAVING CARBOXYMETHYL CELLULASE ACTIVITY AND METHODS OF USE  
THEREOF

<130> DIVER11110-4

<140> US 09/880,729

<141> 2001-06-12

<150> US 09/472,857

<151> 1999-12-27

<150> US 08/951,889

<151> 1997-10-16

<150> US 08/518,615

<151> 1995-08-23

<160> 4 ✓

<170> PatentIn version 3.1

<210> 1

<211> 954

<212> DNA

<213> Unknown

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<223> Isolated nucleic acid sequence

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attataaaag aagccggttt ctctcatggt cgaattccaa taagatggag tacgcacgct	180
tacgcgtttc ctctttataa aatcatggat cgcttcttca aaagagtgga tgaagtgata	240
aacggagccc tgaaaagagg actggctggt gctataaata ttcatacta cgaggagtta	300
atgaatgatc cagaagaaca caaggaaaga tttcttgctc tttggaaaca aattgctgat	360
cgttataaag actatcccga aactctat ttgaaattc tgaatgaacc tcacggaaat	420
cttactccgg aaaaatggaa tgaactgctt gaggaagctc taaaagttat aagatcaatt	480
gacaaaaagc aactataat tataggcaca gctgaatggg ggggtatatc tgcccttgaa	540
aaactgtctg tcccaaaatg ggaaaaaaat tctatagtta caattcacta ctacaatcct	600
ttcgaattta cccatcaagg agctgagtgg gtggaaggat ctgagaaatg gttgggaaga	660
aagtggggat ctccagatga tcagaaacat ttgatagaag aattcaattt tatagaagaa	720
tggtcaaaaa agaacaaaag accaatctac ataggtgagt ttggtgccta cagaaaagct	780

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gaccttgaat caagaataaa atggacctcc tttgtcgttc gcgaaatgga gaaaaggaga 840  
 tggagctggg catactggga attttgttcc ggttttggtg tttatgatac tctgagaaaa 900  
 acctggaata aagatctttt agaagcttta ataggaggag atagcattga ataa 954

<210> 2  
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Met Gly Val Asp Pro Phe Glu Arg Asn Lys Ile Leu Gly Arg Gly Ile  
 1 5 10 15

Asn Ile Gly Asn Ala Leu Glu Ala Pro Asn Glu Gly Asp Trp Gly Val  
 20 25 30

Val Ile Lys Asp Glu Phe Phe Asp Ile Ile Lys Glu Ala Gly Phe Ser  
 35 40 45

His Val Arg Ile Pro Ile Arg Trp Ser Thr His Ala Tyr Ala Phe Pro  
 50 55 60

Pro Tyr Lys Ile Met Asp Arg Phe Phe Lys Arg Val Asp Glu Val Ile  
 65 70 75 80

Asn Gly Ala Leu Lys Arg Gly Leu Ala Val Ala Ile Asn Ile His His  
 85 90 95

Tyr Glu Glu Leu Met Asn Asp Pro Glu Glu His Lys Glu Arg Phe Leu  
 100 105 110

Ala Leu Trp Lys Gln Ile Ala Asp Arg Tyr Lys Asp Tyr Pro Glu Thr  
 115 120 125

Leu Phe Phe Glu Ile Leu Asn Glu Pro His Gly Asn Leu Thr Pro Glu  
 130 135 140

Lys Trp Asn Glu Leu Leu Glu Glu Ala Leu Lys Val Ile Arg Ser Ile  
 145 150 155 160

Asp Lys Lys His Thr Ile Ile Ile Gly Thr Ala Glu Trp Gly Gly Ile  
 165 170 175

Ser Ala Leu Glu Lys Leu Ser Val Pro Lys Trp Glu Lys Asn Ser Ile  
 180 185 190

Val Thr Ile His Tyr Tyr Asn Pro Phe Glu Phe Thr His Gln Gly Ala  
 195 200 205

Glu Trp Val Glu Gly Ser Glu Lys Trp Leu Gly Arg Lys Trp Gly Ser  
 210 215 220

Pro Asp Asp Gln Lys His Leu Ile Glu Glu Phe Asn Phe Ile Glu Glu  
 225 230 235 240

Trp Ser Lys Lys Asn Lys Arg Pro Ile Tyr Ile Gly Glu Phe Gly Ala  
 245 250 255

Tyr Arg Lys Ala Asp Leu Glu Ser Arg Ile Lys Trp Thr Ser Phe Val  
 260 265 270

Val Arg Glu Met Glu Lys Arg Arg Trp Ser Trp Ala Tyr Trp Glu Phe  
 275 280 285

Cys Ser Gly Phe Gly Val Tyr Asp Thr Leu Arg Lys Thr Trp Asn Lys  
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Asp Leu Leu Glu Ala Leu Ile Gly Gly Asp Ser Ile Glu  
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 <212> DNA  
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33